San Ace 40 9HV type
High Static Pressure Fan

Features

High Static Pressure

- Static pressure: 1.4 times that of our conventional DC fan.*
- Servers, data storage systems, ICT devices, and power supplies are becoming denser and generating more heat.
- Offers effective cooling even for these devices with its greatly increased static pressure.

* : Our conventional DC fan is 40 × 40 × 28 mm "San Ace 40 9GA type", Model No. 9GA0412P3K01.

40×40×28mm

Specifications

The following nos. have **PWM controls, pulse sensors**.

Model No.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle (Note) [%]	Rated current [A]	Rated input [W]	Rated speed [min^{-1}]	Max. Airflow [m^3/min]	[CFM]	Max. Static pressure [Pa]	[inchH$_2$O]	SPL [dB(A)]	Operating temperature [℃]	Expected life [h]
9HV0412P3K001	12	10.8 to 12.6	100	1.52	18.3	25,000	0.83	29.3	1,100	4.42	65	−20 to +60	40,000 / 60 ℃
			0	0.2	2.4	7,500	0.25	8.8	99	0.40	37		

Note: PWM frequency: 25 kHz

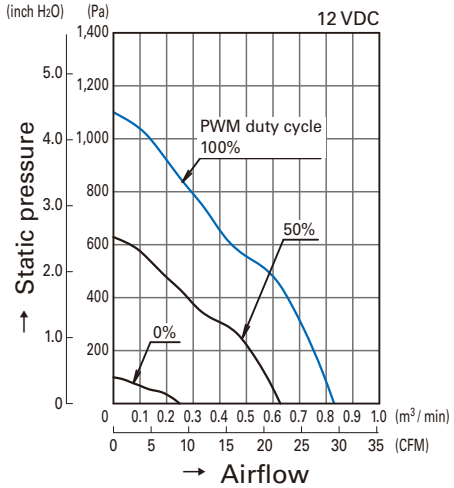
Available options: Without Sensor Pulse Sensor

Common Specifications

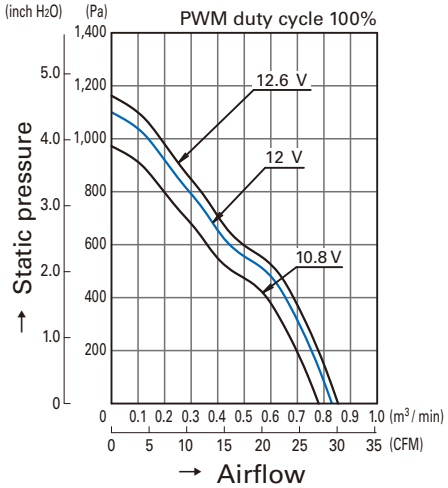
- ☐ Material ····· Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-0)
- ☐ Expected life ····· Refer to specifications
  (L10: Survival rate: 90% at 60 ℃, rated voltage, and continuously run in a free air state)
- ☐ Motor protection system ····· Current blocking function and reverse polarity protection
- ☐ Dielectric strength ····· 50 / 60 Hz, 500 VAC, 1 minute (between lead conductor and frame)
- ☐ Sound pressure level (SPL) ····· Expressed as the value at 1 m from air inlet side
- ☐ Operating temperature ····· Refer to specifications (Non-condensing)
- ☐ Storage temperature ····· −30 ℃ to +70 ℃ (Non-condensing)
- ☐ Lead wire ····· ⊕Red ⊖Black Sensor: Yellow Control: Brown
- ☐ Mass ····· Approx. 60 g

Airflow - Static Pressure Characteristics

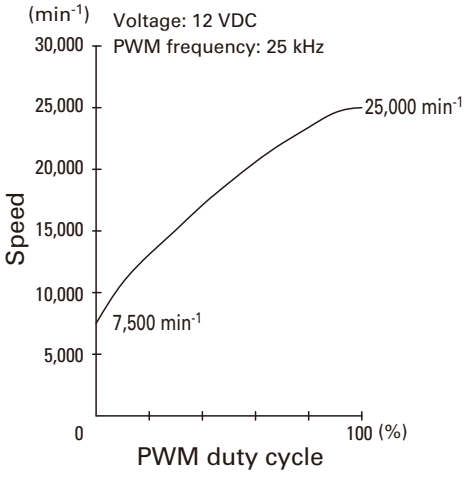
• PWM duty cycle



• Operating voltage range

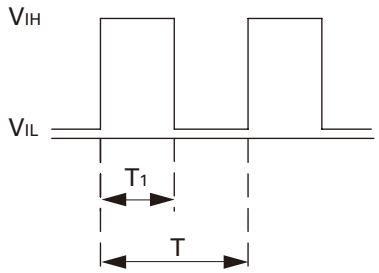


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

Input signal waveform



V_{IH}=2.8 V to 3.8 V

V_{IL}=0 V to 0.4 V

PWM duty cycle (%) = $\frac{T1}{T} \times 100$

PWM frequency 25 (kHz) = $\frac{1}{T}$

Source current (Isource) : 5 mA max. at control voltage 0 V

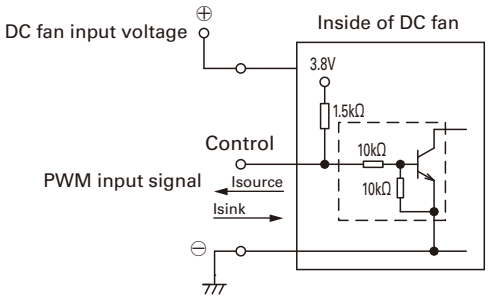
Sink current (Isink) : 5 mA max. at control voltage 3.8 V

Control terminal voltage: 3.8 V max. (Open circuit)

When the control lead wire is open,
the fan speed is the same as the one at a PWM duty cycle of 100%.

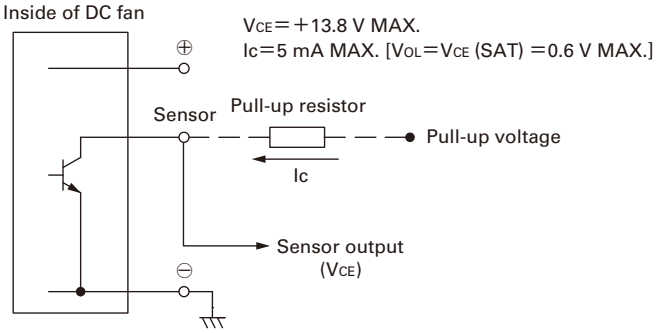
Either TTL input, open collector or open drain can be used for PWM control input signal.

Example of Connection Schematic



Specifications for Pulse Sensors

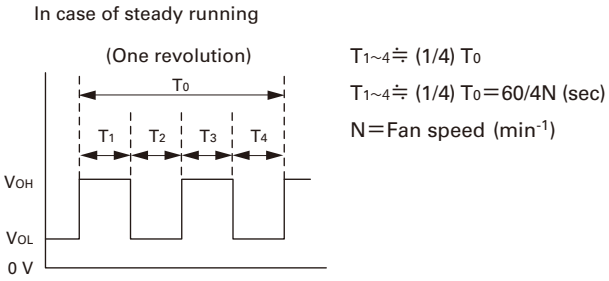
Output circuit: Open collector



V_{CE}=+13.8 V MAX.

Ic=5 mA MAX. [V_{OL}=V_{CE} (SAT) =0.6 V MAX.]

Output waveform (Need pull-up resistor)

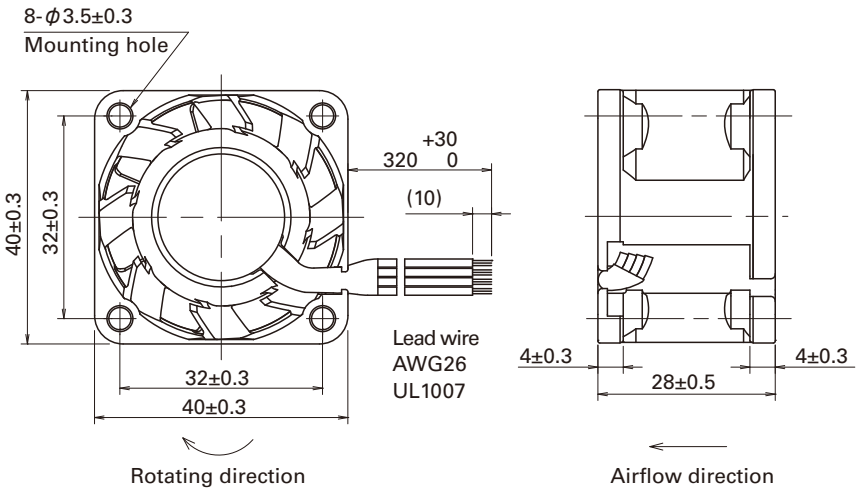


$T_{1\sim4} \fallingdotseq$ (1/4) T_0

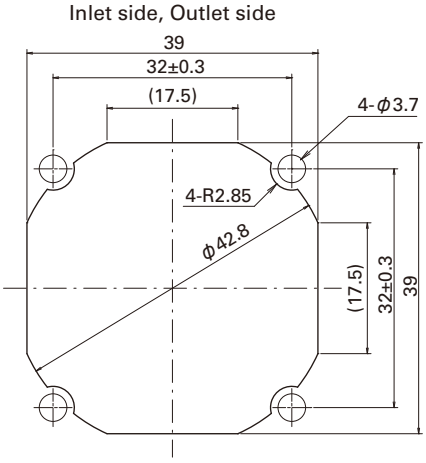
$T_{1\sim4} \fallingdotseq$ (1/4) T_0=60/4N (sec)

N=Fan speed (min^{-1})

Dimensions (unit: mm)



Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Notice

- Please read the "Safety Precautions" on our website once you have decided on a product for use.
- The products shown in this catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.
- To protect against electrolytic corrosion that may occur in locations with strong electromagnetic noise, we provide fans that are unaffected by electrolytic corrosion.

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